

Disability and Health in South Carolina
A 2009 Behavioral Risk Factor Surveillance System Report







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South Carolina Department of Health and Environmental Control

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#### INTRODUCTION

Since its inception in 1984, the South Carolina (SC) Behavioral Risk Factor Surveillance System (BRFSS) survey has been conducted annually by the SC Department of Health and Environmental Control (DHEC) with assistance from the Centers for Disease Control and Prevention (CDC). The BRFSS is a state based cross-sectional telephone survey conducted to assess health behaviors and risk factor prevalence within the US, its states and its territories. The survey is administered to non-institutionalized adults aged 18 years or older from randomly selected households. Questions included on the survey gather information about lifestyle choices such as smoking, alcohol consumption, physical activity, preventive health practices, and health care access primarily related to chronic disease or injury. The information obtained from the survey is then specifically weighted so that it is representative of the adult population of South Carolina.

For information on SC BRFSS, please visit: http://www.scdhec.gov/hs/epidata/brfss\_index.htm.

The South Carolina (SC) Interagency Office of Disability and Health (IODH) is a collaborative partnership between the University of South Carolina School of Medicine (USCSM), the SC Department of Disabilities and Special Needs (DDSN), the SC Department of Health and Environmental Control (DHEC) and the SC Developmental Disabilities Council (DDC). The primary purpose of the collaboration is to promote the health and wellness of persons with disabilities in South Carolina through an integrated program of policy, practice and evaluation. Since 1997, the main focus of the SC IODH has been building an infrastructure for disability knowledge through education, service and research.

To learn more about SC IODH and its partners, please visit http://www.sciodh.com/.

The SC Department of Health and Environmental Control has partnered with the SC Interagency Office of Disability and Health to produce the 2009 SC BRFSS report on Disability and Health in South Carolina. This report utilizes data from the 2009 SC BRFSS survey to highlight health related risks for disabled individuals in South Carolina.

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#### **OVERVIEW**

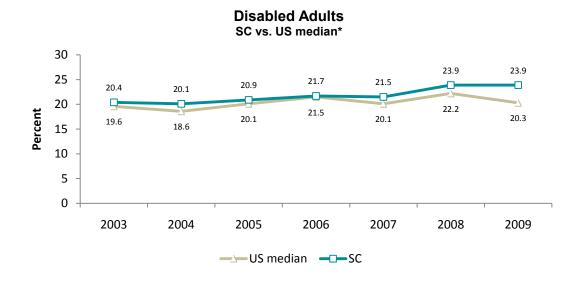
People with disabilities are identified as a possible health disparity group. To reduce these disparities, it is important to understand the health status of those with and without disabilities. This report describes various critical health indicators for South Carolinian adults with and without disabilities.

The BRFSS survey includes two questions relating to disability:

- Are you limited in any way in any activities because of physical, mental, or emotional problems?
- Do you now have any health problems that require you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone?

For the purpose of this report, respondents are recognized as having a disability if they answered affirmatively to one or both of the above questions. Likewise, respondents answering "No" to both questions are identified as not having a disability. All other individuals not meeting these criteria were excluded from analyses.

Historically, over 20 percent of South Carolinian adults have reported having a disability according to the definition above. On average, the prevalence of disabled adults in South Carolina has been slightly higher than that of the nation.



<sup>\*</sup> National BRFSS statistics were derived from data collected in all 50 states, Guam, Puerto Rico, Virgin Islands, and Washington D.C.

#### **METHODOLOGY**

Analysis for this study was conducted utilizing complex survey procedures available in SAS v.9.2. The data were weighted to adjust for population demographic factors (age, race, and gender) as well as the probability of being selected by phone number(s) and within a household. Unweighted frequencies, weighted percentages, 95% confidence intervals and p-values calculated from chi-square test for significance are presented for every measured statistic, and results are to be interpreted as prevalence estimates for disabled and non-disabled individuals among the general adult population of South Carolina.

More information on BRFSS survey methodology is available online at: <a href="http://www.cdc.gov/brfss">http://www.cdc.gov/brfss</a>.

#### **Sample Statistics**

- Of the 9,860 SC BRFSS respondents who were interviewed in 2009:
  - o 85 did not meet the aforementioned disability criteria and were excluded
  - o 34.6% are 65 years of age or older
  - o 62.2% are female
  - o 67.0% White Non-Hispanic, 28.1% Black NH, 3.3% Other NH, 1.6% Hispanic
  - o 85.9% have a High School education or higher
  - o 34.6% earn less than \$25,000 annually
- The Council of American Survey Research Organizations (CASRO) response rate for the 2009 SC BRFSS was 61.2%.

## **DEMOGRAPHICS**

Demographic data for survey respondents, by disability category, are displayed in Table 1. People with disabilities were significantly more likely to be 65 years of age or older. Educational attainment and income were significantly lower among people with disabilities, who were also less likely to report current employment and more likely to be either retired or unable to work. There was a small but significant difference in the racial distribution by disability status. (Table 1)

Table 1: SC BRFSS 2009 Demographic Data by Disability Status

SOCIODEMOGRAPHIC CATEGORY					
(N=9,775)	DI	SABILITY	NO	DISABILITY	P-value
	n	Weighted %	n	Weighted %	
All Adults (ages ≥ 18)	2910	23.9	6865	76.1	
AGE					
18-64	1599	71.6	4800	85.6	<.0001
65+	1311	28.4	2065	14.4	
GENDER					
Male	1039	45.7	2653	48.6	0.1388
Female	1871	54.3	4212	51.4	
RACE					
White	1985	70.3	4544	66.9	0.0394
African American	765	23.1	2047	27.7	
Other	138	6.6	234	5.4	
ETHNICITY					
Hispanic	39	2.2	115	3.0	0.2807
Non-Hispanic	2751	97.8	6629	97.0	
EDUCATION					
Less than H.S.	637	21.3	737	9.8	<.0001
H.S. or higher	2269	78.7	6109	90.2	
INCOME					
<\$25,000	1196	42.8	1623	22.7	<.0001
\$25,000+	1142	57.2	4203	77.3	
EMPLOYMENT					
Employed	604	29.7	3787	64.7	<.0001
Unemployed	194	9.6	465	9.2	
Student/Homemaker	197	8.2	550	10.7	
Retired	1092	26.5	1845	13.5	
Unable to work	816	26.1	186	1.9	

## **GENERAL HEALTH**

Respondents were asked the following questions regarding their general health:

- Would you say that in general your health is (Excellent, Very Good, Good, Fair, or Poor)?
- Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?
- Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?
- During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

People with disabilities reported significantly poorer general health than those with no disability. Only 5.4% of people with a disability reported having excellent health, compared to 20.8% with poor health. Among respondents with no disability 22.7% reported excellent health versus 1.1% with poor health. (Table 2)

**Table 2: General Health by Disability Status** 

GENERAL HEALTH		DISAB	ILITY	NO DISABILITY			
GENERAL HEALTH	n	%	95% CI	n	%	95% CI	
Excellent	113	5.4	3.8 - 6.9	1371	22.7	20.9 - 24.5	
Very Good	432	15.4	13.0 - 17.7	2473	38.8	36.8 - 40.8	
Good	862	34.4	31.2 - 37.5	2220	31.1	29.1 - 33.0	
Fair	777	24.1	21.4 - 26.8	627	6.3	5.4 - 7.2	
Poor	687	20.8	18.5 - 23.1	129	1.1	0.8 - 1.3	

P-value <.0001

People with a disability also reported a greater number of days in which their physical health was not good. 29.0% of people with disabilities reported that their physical health was not good for more than half of the previous 30 days, compared to 2.5% of people without disabilities. (Table 3)

**Table 3: Days Physical Health Not Good** 

MILIMADED OF DAVE DUVEICAL		DISAB	ILITY	NO DISABILITY			
NUMBER OF DAYS PHYSICAL HEALTH NOT GOOD	n	%	95% CI	n	%	95% CI	
NONE	973	37.7	34.4 - 41.0	5106	76.7	74.9 - 78.5	
1-15 DAYS	864	33.3	30.1 - 36.5	1322	20.8	19.0 - 22.6	
16-30 DAYS	833	29.0	26.1 - 31.9	234	2.5	1.9 - 3.0	

Mental health was described as not good for 16-30 of the past 30 days by 17.6% of people with disabilities and 4.9% of people with no disability. (Table 4)

**Table 4: Days Mental Health Not Good** 

ALLINADED OF DAVE MACRITAL		DISAB	ILITY	NO DISABILITY		
NUMBER OF DAYS MENTAL HEALTH NOT GOOD	n	%	95% CI	n	%	95% CI
NONE	1568	54.2	51.0 - 57.5	5128	72.0	70.1 - 74.0
1-15 DAYS	721	28.1	25.1 - 31.2	1295	23.0	21.2 - 24.9
16-30 DAYS	483	17.6	15.3 - 19.9	293	4.9	4.0 - 5.9

P-value <.0001

Accordingly, people with a disability reported a significantly greater number of days in which poor physical or mental health interfered with their ability to participate in their usual activities; 28.8% of people with disabilities reported that this occurred on more than half of the prior 30 days, compared to 2.9% of people without disability.(Table 5)

**Table 5: Poor Physical or Mental Health Interfered with Usual Activities** 

DOOD DUVICAL OD MENTAL		DISAB	ILITY	NO DISABILITY		
POOR PHYSICAL OR MENTAL HEALTH DAYS	n	%	95% CI	n	%	95% CI
NONE	764	34.6	31.2 - 37.9	1921	69.9	66.7 - 73.1
1-15 DAYS	661	36.6	32.9 - 40.4	670	27.2	24.0 - 30.3
16-30 DAYS	580	28.8	25.4 - 32.2	84	2.9	1.9 - 3.9



#### **WEIGHT & PHYSICAL ACTIVITY**

Respondents were asked to provide their height and weight, so that body mass index (BMI) could be calculated. A BMI less than 25 is considered to be healthy, while a BMI of 25 to 29.9 is overweight and a BMI of 30 or greater is obese. People with a disability were significantly less likely to have a healthy weight (28.6% versus 36.1%). People with a disability were more likely to be obese (39.1% versus 27.3%). (Table 6)

**Table 6: Body Mass Index** 

BMI		DISAB	ILITY	NO DISABILITY			
DIVII	n % 95% CI			n	%	95% CI	
< 25	787	28.6	25.6 - 31.6	2215	36.1	34.0 - 38.2	
25-29.9	870	32.3	29.2 - 35.4	2513	36.6	34.7 - 38.6	
>=30	1098	39.1	35.9 - 42.2	1820	27.3	25.4 - 29.2	

P-value <.0001

We analyzed the following question about physical activity:

• During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

A majority of people in both the disability and no disability group reported at least some leisure time physical activity in the past month. However, people with a disability were significantly less likely (57.4%) to report physical activity than those with no disability (79.0%). (Table 7)

**Table 7: Physical Activity** 

EXERCISE LAST 30 DAYS		DISAB	ILITY	NO DISABILITY		
EXERCISE LAST 30 DATS	n % 95% CI			n	%	95% CI
YES	1584	57.4	54.3 - 60.5	5219	79.0	77.4 - 80.6
NO	1317	42.6	39.5 - 45.7	1625	21.0	19.4 - 22.6

## **TOBACCO USE**

We analyzed three questions related to tobacco use:

- Have you smoked at least 100 cigarettes in your entire life?
- Do you now smoke cigarettes every day, some days, or not at all? (asked only of those who answered "yes" to the first question)
- During the past 12 months, have you stopped smoking for one day or longer because you were trying to quit smoking? (asked only of those who answered "yes" to the first two questions)

People with a disability were significantly more likely to have smoked at least 100 cigarettes in their lifetime (55.5% versus 41.6%). Among those who had smoked at least 100 cigarettes, there was not a significant difference in the proportion who currently smokes every day or some days, for those with and without a disability. Among those who currently smoke at least some days, there was not a significant difference in the proportion who had stopped smoking for a day or longer in the previous 12 months (58.0% of those with a disability versus 58.4% of those without a disability).( Tables 8-10)

Table 8: Smoked at Least 100 Cigarettes, Lifetime

SMOKED AT LEAST 100		DISAB	ILITY	NO DISABILITY		
CIGARETTES	n	%	95% CI	n	%	95% CI
YES	1623	55.5	52.3 - 58.7	3010	41.6	39.6 - 43.6
NO	1268	44.5	41.3 - 47.7	3807	58.4	56.4 - 60.4

P-value <.0001

Table 9: Current Smoking (Among those who have ever smoked)

FREQUENCY OF DAYS NOW		DISAB	ILITY	NO DISABILITY		
SMOKING	n	%	95% CI	n	%	95% CI
EVERY DAY	393	32.1	28.1 - 36.1	784	32.7	29.7 - 35.6
SOME DAYS	193	13.7	10.7 - 16.8	315	12.3	10.2 - 14.4
NOT AT ALL	1035	54.2	50.1 - 58.3	1910	55.1	52.0 - 58.1

P-value 0.7289

Table 10: Tried to Stop Smoking, Past 12 Months

STOPPED SMOKING IN PAST		DISAB	ILITY	NO DISABILITY		
12 MONTHS	n	%	95% CI	n	%	95% CI
YES	363	58.0	51.4 - 64.5	634	58.4	53.6 - 63.3
NO	218	42.0	35.5 - 48.6	460	41.6	36.7 - 46.4

Table 11 shows the current smoking status (every day, some days, former, and never). The distribution is significantly different for those with and without disability. This difference was primarily due to the presence of more former smokers in those with a disability and more never smokers in those without a disability, though the proportion of current, every day smoking was 4.2 percentage points higher in people with a disability (17.8% versus 13.6%).(Table 11)

**Table 11: Smoking Status** 

SMOKING STATUS		DISAB	ILITY	NO DISABILITY		
SIVIORING STATUS	n	%	95% CI	n	%	95% CI
CURRENT SMOKER - NOW SMOKES EVERY DAY	393	17.8	15.3 - 20.3	784	13.6	12.1 - 15.0
CURRENT SMOKER - NOW SMOKES SOME DAYS	193	7.6	5.9 - 9.4	315	5.1	4.2 - 6.0
FORMER SMOKER	1035	30.1	27.4 - 32.8	1910	22.9	21.3 - 24.5
NEVER SMOKED	1268	44.5	41.3 - 47.7	3807	58.4	56.4 - 60.4



## **ALCOHOL CONSUMPTION**

We analyzed two questions related to alcohol use:

- During the past 30 days, have you had at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor?
- Considering all types of alcoholic beverages, how many times during the past 30 days did you have X [X = 5 for men, X = 4 for women] or more drinks on an occasion?

People with a disability were significantly less likely to report drinking any alcohol in the past 30 days (33.6% versus 46.5%). People with a disability were also significantly less likely to report binge drinking (5 or more drinks on a single occasion for men, 4 or more for women). At least one instance of binge drinking was reported by 8.2% of people with a disability, compared to 14.2% of those without a disability (Tables 12-13).

Table 12: Any Alcohol Use in the Past 30 Days

DAYS IN THE PAST 30 HAD		DISAB	ILITY	NO DISABILITY			
ALCOHOLIC BEVERAGE	n	95% CI	n	%	95% CI		
YES	798	33.6	30.4 - 36.8	2929	46.5	44.4 - 48.5	
NO	2096	66.4	63.2 - 69.6	3907	53.5	51.5 - 55.6	

P-value <.0001

**Table 13: Binge Drinking Past 30 Days** 

		DISAB	ILITY	NO DISABILITY			
HOW MANY TIMES DURING THE PAST 30 DAYS DID YOU BINGE DRINK?	n	%	95% CI	n	%	95% CI	
NONE	2694	91.8	89.8 - 93.7	6039	85.8	84.2 - 87.4	
1 TIME	53	3.4	2.1 - 4.7	231	4.3	3.4 - 5.1	
2-5 TIMES	68	2.8	1.7 - 3.8	338	6.8	5.6 - 8.1	
>5 TIMES	35	2.0	0.8 - 3.2	119	3.1	2.2 - 4.0	

There was not a significant difference in the proportion of heavy drinkers by disability status.

Table 14: Heavy Drinker (more than 2 drinks /day for men and more than 1 drink/day for women)

HEAVY DRINKER		DISAB	ILITY	NO DISABILITY			
HEAVY DRIINKER	n	%	95% CI	n	%	95% CI	
NO	2748	95.9	94.5 - 97.3	6371	95.0	94.0 - 96.0	
YES	92	4.1	2.7 - 5.5	325	5.0	4.0 - 6.0	



#### **DIABETES**

Participants were asked the following questions about diabetes:

- Have you ever been told by a doctor that you have diabetes?
- How old were you when you were told you have diabetes?
- About how many times in the past 12 months have you seen a doctor, nurse, or other health professional for your diabetes?
- A test for "A one C" measures the average level of blood sugar over the past three months. About how many times in the past 12 months has a doctor, nurse, or other health professional checked you for "A one C"?
- About how many times in the past 12 months has a health professional checked your feet for any sores or irritations?
- When was the last time you had an eye exam in which the pupils were dilated? This would have made you temporarily sensitive to bright light.
- Has a doctor ever told you that diabetes has affected your eyes or that you had retinopathy?

People with a disability were significantly more likely to have been diagnosed with diabetes (not including gestational diabetes) than people without a disability (20.7% versus 7.2%). (Table 15)

**Table 15: Ever Diagnosed with Diabetes** 

EVER TOLD BY DOCTOR		DISAB	ILITY	NO DISABILITY			
YOU HAVE DIABETES	n	%	95% CI	n %		95% CI	
YES	735	20.7	18.3 - 23.0	736	7.2	6.3 - 8.1	
NO	2170	79.3	77.0 - 81.7	6121	92.8	91.9 - 93.7	

P-value <.0001

Among people who had been diagnosed with diabetes, age of diagnosis did not differ significantly for people with a disability compared to people without a disability. (Table 16)

**Table 16: Age of Diabetes Diagnosis** 

AGE WHEN TOLD YOU HAD		DISAB	ILITY	NO DISABILITY			
DIABETES	n	%	95% CI	n	%	95% CI	
<30	50	9.1	4.7 - 13.5	38	12.0	6.1 - 17.9	
30-49	217	41.2	34.5 - 48.0	235	43.7	37.2 - 50.2	
50-59	192	26.6	21.4 - 31.7	176	20.4	16.0 - 24.9	
60+	201	23.1	18.3 - 27.9	215	23.9	19.3 - 28.5	

Among people with diabetes, those with a disability were significantly more likely to report taking insulin (38.4% versus 24.1%). They also reported significantly more frequent self monitoring of blood glucose. (Table 17-18)

Table 17: Taking Insulin

		DISA	BILITY	NO DISABILITY						
TAKING INSULIN										
	n	%	95% CI	n	%	95% CI				
YES	281	38.4	32.0 - 44.8	174	24.1	18.4 - 29.7				
NO	453	61.6	55.2 - 68.0	562	75.9	70.3 - 81.6				

P-value 0.001

**Table 18: Self-Monitoring of Blood Glucose** 

	DISABILITY				NO DISABILITY		
HOW OFTEN CHECK			/			<b></b> / <b>-</b> :	
	n	%	95% CI	n	%	95% CI	
1 or more/day	522	70.7	65.5 - 76.0	450	60.5	54.3 - 66.6	
1 or more/week	125	18.7	14.3 - 23.1	172	24.0	18.9 - 29.0	
1 or more/month	20	2.3	1.1 - 3.6	39	7.5	3.0 - 11.9	
1 or more/year	3	1.0	0.0 - 2.4	6	0.3	0.0 - 0.7	
Never	44	7.2	4.4 - 10.1	57	7.7	4.7 - 10.7	

P-value 0.0047

There was not a significant difference in the frequency of self monitoring for foot sores. (Table 19).

**Table 19: Self-Monitoring for Foot Sores** 

	DISABILITY				NO DISABILITY		
HOW OFTEN CHECK	n	%	95% CI	n	%	95% CI	
1 or more/day	509	69.7	63.1 - 76.2	487	65.4	59.4 - 71.5	
1 or more/week	113	20.8	14.4 - 27.1	112	16.7	12.3 - 21.1	
1 or more/month	18	3.0	0.7 - 5.2	29	6.0	3.0 - 9.1	
1 or more/year	5	0.4	0.0 - 0.9	4	1.0	0.0 - 2.2	
Never	43	6.1	3.5 - 8.8	67	10.9	6.4 - 15.5	

People with a disability who had diabetes reported significantly more frequent diabetes-related visits to a health care professional than their counterparts without disability. Almost 8% of people with a disability had 12 or more visits in the previous year, compared to approximately 2% of people without a disability. There were no significant differences in the frequency of glycosylated hemoglobin testing. Those with a disability were also significantly more likely to report having a dilated eye examination. Respondents with a disability that have been diagnosed with diabetes are significantly less likely to have their feet checked by a health professional. (Table 20-23)

Table 20: Visits to a Health Professional for Diabetes

TIMES SEEN HEALTH		DISAB	ILITY	NO DISABILITY			
PROFESSIONAL FOR DIABETES	n	%	95% CI	n	%	95% CI	
1-5 TIMES	449	78.1	73.4 - 82.9	541	80.2	74.5 - 85.9	
6-11 TIMES	67	6.5	4.1 - 8.8	35	4.5	2.2 - 6.8	
12+ TIMES	66	7.9	4.7 - 11.0	17	2.1	0.3 - 3.9	
NEVER	59	7.5	4.6 - 10.4	83	13.3	7.9 - 18.6	

P-value 0.0023

Table 21: Hemoglobin A1c Testing

TIMES CHECKED FOR	DISABILITY				NO DISABILITY			
GLYCOSYLATED HEMOGLOBIN	n	%	95% CI	n	%	95% CI		
ONCE	74	14.2	9.6 - 18.8	103	16.7	11.7 - 21.6		
TWICE	128	23.5	18.0 - 28.9	174	29.7	23.9 - 35.4		
3-4 TIMES	265	43.5	36.4 - 50.5	244	32.8	27.0 - 38.5		
5+ TIMES	46	5.2	2.9 - 7.5	27	3.3	1.4 - 5.2		
NEVER	112	13.7	10.1 - 17.3	98	17.6	11.7 - 23.5		

P-value 0.0753

**Table 22: Foot Examinations by Health Professional** 

TIMED FEET CHECKED FOR		DISAB	ILITY	NO DISABILITY		
SORES/IRRITATION	n	%	95% CI	n	%	95% CI
ONCE/YEAR	117	16.9	12.5 - 21.3	130	17.4	13.2 - 21.6
2-3/YEAR	158	22.5	17.5 - 27.5	191	29.6	24.2 - 35.1
4+/YEAR	236	35.8	29.0 - 42.6	166	21.2	16.3 - 26.1
NEVER	171	24.8	19.7 - 29.9	201	31.8	25.5 - 38.1

**Table 23: Dilated Eye Examination** 

LAST EYE EXAM WHERE	DISABILITY				NO DISABILITY			
PUPILS WERE DILATED	n	%	95% CI	n	%	95% CI		
PAST MONTH	112	18.7	12.5 - 25.0	118	14.3	10.7 - 17.9		
PAST YEAR	387	51.7	45.4 - 58.1	381	51.9	45.7 - 58.1		
PAST 2 YEARS	98	15.9	11.5 - 20.4	95	13.7	9.5 - 17.9		
2+ YEARS AGO	110	11.7	8.5 - 14.8	97	13.4	9.7 - 17.1		
NEVER	14	1.9	0.7 - 3.2	26	6.7	2.8 - 10.7		

P-value 0.0415

People with a disability were more than twice as likely to have ever been diagnosed with diabetic retinopathy (26.9% versus 13.9%). (Table 24)

**Table 24: Ever Diagnosed with Diabetic Retinopathy** 

EVER TOLD DIABETES HAS		DISAB	ILITY	NO DISABILITY		
AFFECTED EYES	n	%	95% CI	n	%	95% CI
YES	202	26.9	20.9 - 33.0	120	13.9	10.4 - 17.5
NO	517	73.1	67.0 - 79.1	607	86.1	82.5 - 89.6

P-value <.0001

There was not a significant difference between those with a disability or no disability in taking a diabetes management class. (Table 25)

**Table 25: Ever Taken a Diabetes Management Class** 

EVER TAKEN CLASS IN		DISAB	ILITY	NO DISABILITY		
MANAGING DIABETES	n	%	95% CI	n	%	95% CI
YES	392	53.7	47.5 - 60.0	395	53.4	47.2 - 59.5
NO	337	46.3	40.0 - 52.5	340	46.6	40.5 - 52.8



## **CARDIOVASCULAR DISEASE**

The following questions were asked regarding cardiovascular disease: Has a doctor, nurse, or other health professional EVER told you that you:

- had a heart attack, also called a myocardial infarction?
- had angina or coronary heart disease?
- had a stroke?

## Other questions included:

- Following your heart attack, did you go to any kind of outpatient rehabilitation?
- Following your stroke, did you go to any kind of outpatient rehabilitation?
- Do you take aspirin daily or every other day?
- Do you have a health problem or condition that makes taking aspirin unsafe for you?

People with a disability were far more likely than people without disability to have had a myocardial infarction (12.2% versus 2.2%), angina or coronary heart disease (11.1% versus 2.4%), or stroke (8.7% versus 1.4%). (Tables 26-28)

**Table 26: Ever Diagnosed with Myocardial Infarction** 

EVER TOLD MYOCARDIAL		DISAB	ILITY	NO DISABILITY		
INFARCTION	n	%	95% CI	n	%	95% CI
YES	393	12.2	10.4 - 14.1	244	2.2	1.8 - 2.6
NO	2473	87.8	85.9 - 89.6	6570	97.8	97.4 - 98.2

P-value <.0001

Table 27: Ever Diagnosed with Angina or Coronary Heart Disease

EVER TOLD ANGINA OR		ILITY	NO DISABILITY			
CORONARY HEART DISEASE	n	%	95% CI	n	%	95% CI
YES	348	11.1	9.2 - 12.9	254	2.4	1.9 - 2.9
NO	2471	88.9	87.1 - 90.8	6557	97.6	97.1 - 98.1

**Table 28: Ever Diagnosed with Stroke** 

		ILITY	NO DISABILITY			
EVER TOLD STROKE	n	%	95% CI	n	%	95% CI
YES	325	8.7	7.3 - 10.1	172	1.4	1.1 - 1.7
NO	2570	91.3	89.9 - 92.7	6681	98.6	98.3 - 98.9

P-value <.0001

There was not a significant difference between those with or without a disability in going to outpatient rehabilitation after a heart attack (35% versus 36.5% p-value = .8024) or stroke (34.6% versus 27.4% p-value = .283). (Tables 29-30).

Table 29: Go to any kind of outpatient rehabilitation after Heart Attack

GO TO OUTPATIENT REHABILITATION AFTER HEART ATTACK		DISAB	ILITY	NO DISABILITY		
	n	%	95% CI	n	%	95% CI
YES	131	35.0	27.4 - 42.6	93	36.5	27.4 - 45.7
NO	246	65.0	57.4 - 72.6	140	63.5	54.3 - 72.6

P-value 0.8024

Table 30: Go to any kind of outpatient rehabilitation after Stroke

GO TO OUTPATIENT		DISABILITY				NO DISABILITY		
REHABILITATION AFETR STROKE	n	%	95% CI	n	%	95% CI		
YES	122	34.6	27.1 - 42.1	43	27.4	17.3 - 37.6		
NO	196	65.4	57.9 - 72.9	122	72.6	62.4 - 82.7		



Patients with a disability were significantly more likely to take a aspirin than those patients without a disability (42.2% versus 25.3%), despite the fact that those with a disability are also significantly more likely to have a health related problem to that makes taking aspirin unsafe (22.8% versus 6.4%). (Tables 31-32).

Table 31: Take aspirin daily or every other day

TAVE ACDIDIAL DAILY OD		DISAB	ILITY	NO DISABILITY			
TAKE ASPIRIN DAILY OR EVERY OTHER DAY	n	%	95% CI	n	%	95% CI	
YES	1341	42.2	39.0 - 45.3	2323	25.3	23.7 - 27.0	
NO	1467	57.8	54.7 - 61.0	4210	74.7	73.0 - 76.3	

P-value <.0001

Table 32: Have a health problem that makes taking aspirin unsafe

TAKING ASPIRIN UNSAFE		ILITY	NO DISABILITY			
TAKING ASPIKIN UNSAFE	n	%	95% CI	n	%	95% CI
YES, NOT STOMACH RELATED	224	11.8	9.3 - 14.3	208	3.2	2.4 - 4.0
YES, STOMACH RELATED	213	11.0	8.9 - 13.1	210	3.2	2.5 - 3.9
NO	986	77.2	74.0 - 80.4	3771	93.6	92.5 - 94.6



## **ARTHRITIS**

The following questions were asked about Arthritis: have you EVER been told by a doctor or other health professional that you have some form of:

- Arthritis
- Rheumatoid Arthritis
- Gout
- Lupus
- Fibromyalgia

## Other questions included:

- Are you limited in anyway in any of your usual activates because of arthritis or joint symptoms?
- Do arthritis or joint symptoms now affect whether you work, the type of work you do, or the amount of work you do?
- During the past 30 days, to what extend has your arthritis or joint symptoms interfered with your normal social activities, such as shopping, to the movies, or to religious or social gatherings?
- During the past 30 days, on average how bad was your joint pain on average? From a scale of 1-10 where 0 is no pain, and 10 is pain as bad as it can be.

People with a disability are three times more likely to report being diagnosed with arthritis (61.2% versus 21.2%). Patients with a disability were also significantly more likely to be limited in usual activities because of arthritis (74.4% versus 23.4%). (Table 33-34)

Table 33: Ever Diagnosed with some form of Arthritis

EVER TOLD ARTHRITIS		DISAB	ILITY	NO DISABILITY			
EVER TOLD ARTHRITIS	n	%	95% CI	n	%	95% CI	
YES	1964	61.2	57.9 - 64.4	2063	21.1	19.6 - 22.5	
NO	898	38.8	35.6 - 42.1	4655	78.9	77.5 - 80.4	

P-value <.0001

Table 34: Limited in any usual activities because of Arthritis

LIMITED ACTIVITIES		ILITY	NO DISABILITY			
LIMITED ACTIVITIES	n	%	95% CI	n	%	95% CI
YES	1459	74.4	70.8 - 78.1	495	23.4	20.1 - 26.6
NO	470	25.6	21.9 - 29.2	1540	76.6	73.4 - 79.9

People with a disability are far more significantly likely to report severe or worst possible joint pain than those without a disability. (50.7% versus 16.8 %). (Table 35)

**Table 35: Severity of Joint Pain** 

JOINT PAIN		DISAB	ILITY	NO DISABILITY		
JOINT PAIN	n	%	95% CI	n	%	95% CI
NO PAIN	70	3.7	2.4 - 4.9	213	11.5	8.9 - 14.0
MILD	287	15.8	12.8 - 18.8	796	42.2	38.6 - 45.9
MODERATE	569	29.8	26.1 - 33.6	617	29.4	26.2 - 32.7
SEVERE	680	36.3	32.7 - 40.0	251	12.9	10.2 - 15.6
WORST POSSIBLE	280	14.4	11.4 - 17.4	95	3.9	2.3 - 5.6



## **EMOTIONAL SUPPORT & LIFE SATISFACTION**

Two questions were asked inquiring about Emotional Health:

- How often do you get the social and emotional support you need?
- In general, how satisfied are you with your life?

Respondents with a disability are significantly less likely to receive emotional support than those without a disability (14.4% versus 7.3%).

Table 36: How often do you get the emotional support you need

HOW OFTEN RECEIVE		ILITY	NO DISABILITY			
EMOTIONAL SUPPORT	n	%	95% CI	n	%	95% CI
ALWAYS	1095	40.2	37.0 - 43.3	3291	52.2	50.0 - 54.3
USUALLY	654	26.5	23.4 - 29.5	1620	28.3	26.4 - 30.3
SOMETIMES	537	19.0	16.3 - 21.8	876	12.1	10.8 - 13.5
RARELY	216	8.2	6.4 - 10.0	248	3.2	2.5 - 4.0
NEVER	203	6.2	4.8 - 7.5	319	4.1	3.2 - 5.0

P-value <.0001

Those with a disability are also significantly more likely to report that they are dissatisfied or very dissatisfied with their life (12.4% versus 3.2%). (Table 37)

Table 37: How satisfied are you with life

SATISFIED WITH LIFE		DISAB	ILITY	NO DISABILITY			
SATISFIED WITH LIFE	n	%	95% CI	n	%	95% CI	
VERY SATISFIED	941	33.3	30.3 - 36.3	3387	51.0	48.8 - 53.1	
SATISFIED	1498	54.3	51.0 - 57.6	2932	45.9	43.7 - 48.0	
DISSATISFIED	231	8.5	6.5 - 10.5	170	2.9	2.1 - 3.7	
VERY DISSATISFIED	100	3.9	2.6 - 5.2	21	0.3	0.0 - 0.6	

P-value <.0001

People with a disability were significantly more likely to provide care or assistance to a friend or family member than people without a disability (33.9% versus 29.3). (Table 38)

Table 38: During the past month, did you provide care or assistance to a friend or family member

DID YOU PROVIDE CARE		ILITY	NO DISABILITY			
FOR SOMEONE	n	%	95% CI	n	%	95% CI
YES	847	33.9	30.7 - 37.1	2132	29.3	27.4 - 31.1
NO	2044	66.1	62.9 - 69.3	4679	70.7	68.9 - 72.6

# **HYPERTENSION** (or High Blood Pressure)

The following questions were asked about hypertension:

- Have you EVER been told by a doctor, nurse, or other health profession that you have high blood pressure?
- Are you currently taking medication for you high blood pressure?

People with a disability were significantly more likely to be diagnosed with high blood pressure (49% versus 27.8%). In both groups the majority of the respondents with high blood pressure reported taking medication for high blood pressure. However, those with a disability are significantly more likely to be taking medication (85.9% versus 78.0%). (Table 39-40)

Table 39: Ever Diagnosed with High Blood Pressure

EVER TOLD BLOOD		DISAB	ILITY	NO DISABILITY		
PRESSURE HIGH	n	%	95% CI	n	%	95% CI
YES	1695	49.0	45.8 - 52.2	2586	27.8	26.0 - 29.5
NO	1203	51.0	47.8 - 54.2	4256	72.2	70.5 - 74.0

P-value <.0001

Table 40: Do you take medication for High Blood Pressure

TAKE MEDICATION FOR HIGH BLOOD PRESSURE		ILITY	NO DISABILITY					
	n	%	95% CI	n	%	95% CI		
YES	1541	85.9	82.4 - 89.5	2306	78.0	74.1 - 81.9		
NO	152	14.1	10.5 - 17.6	278	22.0	18.1 - 25.9		



# **HYPERLIPIDEMIA** (or High Cholesterol)

The following questions were asked about hyperlipidemia:

- Have you EVER had your blood cholesterol checked?
- How long has it been since you last had your blood cholesterol checked?
- Have you EVER been told by a doctor, nurse, or other health professional that your blood cholesterol is high?

Respondents with a disability were significantly more likely to have ever had their blood cholesterol checked (87.1% versus 81.2%). People with a disability were also significantly more likely to have their blood cholesterol checked within the past year (83.0% versus 72.3%). Approximately 58% of people with a disability reported to have ever been told they have high cholesterol, compared to 37% of those without disability. (Table 41-43)

Table 41: Ever had your blood cholesterol checked

EVER CHECKED BLOOD		DISA	BILITY	NO DISABILITY		
CHOLESTEROL	n	%	95% CI	n	%	95% CI
YES	2655	87.1	84.3 - 90.0	6048	81.2	79.2 - 83.2
NO	187	12.9	10.0 - 15.7	691	18.8	16.8 - 20.8

P-value 0.002

Table 42: How long since you last checked blood cholesterol

HOW LONG LAST BLOOD		DISAB	ILITY	NO DISABILITY			
CHOLESTEROL CHECK	n	%	95% CI	n	%	95% CI	
PAST YEAR	2227	83.0	80.5 - 85.5	4682	72.3	70.3 - 74.3	
PAST 2 YEARS	197	8.3	6.4 - 10.2	677	13.3	11.8 - 14.8	
PAST 5 YEARS	111	5.6	4.1 - 7.2	420	10.1	8.8 - 11.5	
5 OR MORE YEARS	61	3.1	2.0 - 4.2	211	4.2	3.4 - 5.1	

P-value <.0001

Table 43: Ever told you have high cholesterol

EVER TOLD CHOLESTEROL IS HIGH		ILITY	NO DISABILITY			
	n	%	95% CI	n	%	95% CI
YES	1566	57.6	54.4 - 60.8	2639	36.7	34.7 - 38.7
NO	1051	42.4	39.2 - 45.6	3362	63.3	61.3 - 65.3

## **INADEQUATE SLEEP**

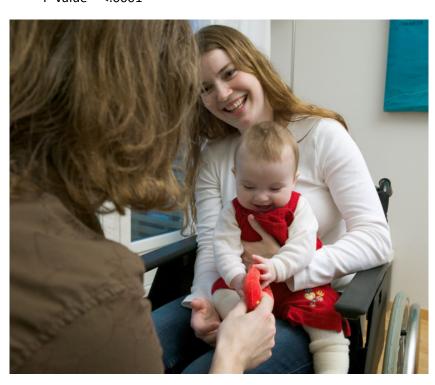
The following question was asked about quantity of sleep:

• During the past 30 days, for about how many days have you felt you did not get enough rest or sleep?

People with a disability reported significantly more days with insufficient rest or sleep than people without a disability. For example, 20.3% of people with a disability reported insufficient rest or sleep for 26 to 30 of the prior 30 days, compared to 8.7% of people without a disability. (Table 44)

**Table 44: Not Getting Enough Rest or Sleep** 

NOT ENGLISH SLEED IN THE		DISAB	ILITY	NO DISABILITY			
NOT ENOUGH SLEEP IN THE PAST 30 DAYS	n	%	95% CI	n	%	95% CI	
1-5 DAYS	488	18.4	15.8 - 21.0	1842	29.3	27.4 - 31.3	
6-10 DAYS	286	11.0	8.9 - 13.1	719	12.2	10.8 - 13.7	
11-15 DAYS	276	10.8	8.7 - 12.9	453	8.3	7.1 - 9.5	
16-20 DAYS	163	6.6	5.1 - 8.2	242	5.3	4.2 - 6.4	
21-25 DAYS	83	3.6	2.2 - 4.9	92	1.7	1.0 - 2.4	
26-30 DAYS	510	20.3	17.6 - 22.9	524	8.7	7.5 - 9.8	
NONE	963	29.3	26.5 - 32.1	2816	34.5	32.6 - 36.4	



## **SOCIOECONOMIC STATUS**

The following questions were asked about employment/finances:

- Do you own or rent your home?
- How often in the past 12 months would you say you were worried or stressed about having enough money to pay rent/mortgage?
- How often in the past 12 months would you say you were worried or stressed about having enough money to buy nutritious meals?
- Did you vote in the last presidential election? The November 2008 election between Barack Obama and John McCain?

The majority of both types of respondents own a home. However, those with a disability were significantly less likely to own a home (72.7% versus 78.2%). (Table 45)

Table 45: Do you own or rent your home

OWN OR RENT HOME		DISAB	ILITY	NO DISABILITY			
OWN OR REINT HOIVIE	n	%	95% CI	n	%	95% CI	
OWN	2107	73.7	70.7 - 76.7	5399	78.2	76.2 - 80.2	
RENT	508	19.7	17.1 - 22.4	730	13.3	11.8 - 14.8	
OTHER	125	6.6	4.6 - 8.6	262	8.5	6.9 - 10.1	

P-value 0.0002

They were also significantly more likely to be worried or stressed about paying rent/mortgage (15.1% versus 7.1% (always or usually worried). (Table 46)

Table 46: During the past 12 months were you ever worried or stressed you could not pay rent/mortgage

WORRIED COULD NOT PAY		DISAB	ILITY	NO DISABILITY		
RENT/MORTGAGE	n	%	95% CI	n	%	95% CI
ALWAYS	237	10.1	8.0 - 12.1	201	4.2	3.3 - 5.2
USUALLY	105	5.0	3.5 - 6.6	123	2.9	2.1 - 3.7
SOMETIMES	407	20.9	17.8 - 23.9	879	16.5	14.9 - 18.2
RARELY	249	11.3	9.1 - 13.5	827	17.4	15.7 - 19.1
NEVER	1343	52.8	49.3 - 56.2	3717	58.9	56.7 - 61.1

People with a disability were also more likely to be worried that they could not buy nutritious food than those without a disability (14% versus 3.9% (always or usually) (Table 47)

Table 47: During the past 12 months were you ever worried or stressed you could buy nutritious food

WORRIED COULD NOT BUY NUTRITIOUS FOOD		ILITY	NO DISABILITY			
	n	%	95% CI	n	%	95% CI
ALWAYS	220	8.2	6.4 - 10.0	128	2.0	1.4 - 2.6
USUALLY	119	5.8	3.8 - 7.8	93	1.9	1.3 - 2.5
SOMETIMES	525	19.5	16.6 - 22.4	730	12.9	11.4 - 14.4
RARELY	316	13.8	11.4 - 16.1	730	13.3	11.8 - 14.9
NEVER	1560	52.7	49.4 - 56.0	4745	69.8	67.8 - 71.9

P-value <.0001

Respondents with a disability who worked were significantly less likely to be paid a salary wage than the respondents of the survey that do not have a disability (29.3% versus 38.2%). The majority of the respondents regardless of disability status were paid an hourly wage.

Table 48: At your work how are you paid

HOW ARE YOU PAID AT WORK	DISABILITY			NO DISABILITY		
	n	%	95% CI	n	%	95% CI
SALARY	192	29.3	23.5 - 35.0	1387	38.2	35.6 - 40.8
HOURLY	277	50.6	43.8 - 57.4	1624	46.8	44.1 - 49.6
BY JOB/TASK	60	10.1	6.3 - 13.8	313	9.3	7.7 - 11.0
OTHER	45	10.0	5.5 - 14.6	204	5.6	4.5 - 6.8

P-value 0.0156

There is no significant difference in the hours worked per week by workers with a disability versus those without a disability. (Table 49 p-value = 0.8132)

Table 49: How many hours per week do you work

HOW MANY HOURS WORKED PER WEEK	DISABILITY			NO DISABILITY		
	n	%	95% CI	n	%	95% CI
1 -20 HRS	74	9.4	5.7 - 13.1	298	7.5	6.2 - 8.8
21-40 HRS	302	53.5	46.6 - 60.4	1920	54.9	52.2 - 57.6
41-60 HRS	158	33.3	26.7 - 39.9	1109	34.0	31.5 - 36.5
61+ HRS	25	3.8	1.5 - 6.0	141	3.6	2.6 - 4.5
NONE	4	0.1	0.0 - 0.2	2	0.0	0.0 - 0.1

Respondents with a disability were significantly less likely to have voted in the last presidential election (72.6% versus 77.9%). (Table 50)

Table 50: Did you vote in the last presidential election

DID YOU VOTE	DISABILITY			NO DISABILITY		
	n	%	95% CI	n	%	95% CI
YES	2086	72.6	69.6 - 75.6	5446	77.9	75.9 - 79.9
NO	654	27.4	24.4 - 30.4	949	22.1	20.1 - 24.1

P-value 0.0031

#### **CONCLUSIONS**

Almost one-fourth of adult participants in the 2009 South Carolina BRFSS reported having a disability. This is similar to previous years. Respondents with a disability generally reported poorer physical health, less satisfaction with life, and less financial security than those without a disability. Some of these findings may be circular, since we do not know the underlying cause of disability in participants who report having a disability. For example, a respondent who uses a walker because of severe arthritis would be classified as having a disability; he or she would also report having significant limitations because of joint pain. In this case it would be an error to conclude that the respondent has arthritis because of his/her disability. On the other hand, a respondent who has a spinal cord injury may develop obesity and, ultimately diabetes, as a result of a reduced capacity to participate in physical activity. In this case, it would be reasonable to attribute (at least partly) the obesity and diabetes to the underlying disability. Additional work is needed to better delineate the causes of disability in South Carolinians and the "secondary conditions" that are attributable to those disabilities.





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